REMARKS

In view of the foregoing amendments and following remarks responsive to the Office Action of January 28, 2004, Applicant respectfully requests favorable reconsideration of this applicant.

Applicant respectfully thanks the Office for the withdrawal of the rejections in the previous Office Action that were based on the Anderson and Liu references.

Applicant also respectfully thanks the Office for the indication that claims 9-15 and 19-21 are allowed and that claim 8 is merely objected to for depending upon a rejected base claim.

Only claims 1-7 and 16-18 currently stand rejected. Particularly, they are rejected under 35 U.S.C. §102(e) as being anticipated by Yeh (U.S. Patent No. 5,995,814). Claim 1 is an independent claim. Claims 2-7 and 16-18 depend from claim 1.

Applicant respectfully traverses this rejection as Yeh does not disclose that for which it has been cited.

The present invention relates to a dual band RF tuning circuit in which frequency tuning is performed by selectively switching inductors or capacitors in and out of functional connection with the received signal. This allows many of the same circuit elements to be used in multiple frequency bands without significant performance degradation or increase in the size of the circuit. In accordance with the invention, MESFET transistor switches are used for band selection and are integral with the tuning circuits.

Claim 1 is reproduced below for ease of reference:

1. A dual band RF tuning circuit comprising:

a first impedance element and a second impedance element between

an RF input port and an RF output port,

the tuning circuit being tuned by the first and second impedance elements to receive a first RF signal and to provide the first RF signal at the output port,

the tuning circuit being tuned by the first impedance element alone to receive a second RF signal and to provide the second RF signal at the output port,

a switching transistor being switched on and off by changing its bias voltage,

a band control voltage source connected to the switching transistor to change its bias voltage, and

the switching transistor having conducting gates connected to the second impedance element to short the second impedance element, which tunes the tuning circuit by the first impedance element.

With respect to claim 1, the Office asserted that Yeh discloses a first impedance element L1 and a second impedance element L2 between an RF input port IN and an RF output port OUT as exhibited in Figure 1, the tuning circuit being tuned by the first and second impedance elements L1, L2 to receive a first RF signal and to provide the first RF signal at the output port, the tuning circuit being tuned by the first impedance element alone (which reads on the subset) to receive a second RF signal and to provide the second RF signal at the output port (which reads on column 10, lines 21-25), a switching transistor Q1 being switched on and off by changing its bias voltage, a band control voltage source V1, V2 connected to the switching transistor to change its bias voltage, and the switching transistor Q1 having conducting gates (emitter) connected to the second impedance element L2 to short the second impedance element, which tunes the tuning circuit by the first impedance element L1 (which reads on column 4, lines 32-35).

Applicant respectfully traverses this rejection. Particularly, the Office has misinterpreted the circuit of Figure 5 of Yeh. For instance, the Office has asserted that the first and second impedance elements of the tuning circuits are L1 and L2. However, as discussed in column 6, lines 1-5 of Yeh, it is L1 and L4 that are a part of the input matching network. L2, on the other hand, provides feedback for improved RF matching and also serves to reduce instabilities (column 4, lines 24-26) and serves no relevant function with respect to input matching. Further, the Office has asserted that Q1 corresponds to the claimed switching transistor. However, as described in column 3, lines 64-66 of Yeh, Q1 is the amplifier. There is no switching transistor in Yeh. In fact, there is no switch at all in Yeh. Yeh discloses a circuit that has narrow band matches for two bands (e.g., 900 MHz and 1.8 GHz). However, unlike the present invention, it does not switch between the two. Rather, it is a circuit that simply has matches at both of those frequencies (column 5, lines 32-41).

Thus, in Yeh, there is no switching in and out of any impedance elements (let alone impedance elements L1 and L2) depending on the selected tuning band.

Hence, with reference to claim 1, Yeh does not disclose "a switching transistor being switched on and off by changing its bias voltage" or "the tuning circuit being tuned by the first impedance element alone to receive a second RF signal and to provide the second RF signal at the output port," or "the switching transistor having conducting gates connected to the second impedance element to short the second impedance element, which tunes the tuning circuit by the first impedance element."

Hence, claim 1 clearly distinguishes over Yeh. As all of the other rejected claims, claims 2-7 and 16-18, depend from claim 1, they, too, distinguish over the prior art for the same reasons.

Applicant has herein also made minor amendments to the specification to correct two typographical errors.

In view of the foregoing amendments and remarks, this application is now in condition for allowance. Applicant respectfully requests the Examiner to issue a Notice of Allowance at the earliest possible date. The Examiner is invited to contact Applicant's undersigned counsel by telephone call in order to further the prosecution of this case in any way.

Respectfully submitted,

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